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# WATER SUPPLY OUTLOOK

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

for

UTAH

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE, and
STATE ENGINEER of UTAH

In cooperation with U.S. Forest Service, Bureau of Reclamation, Utah Fish and Game Dept., Utah Agricultural Experiment Station, U.S. National Park Service, U.S. Geological Survey; and other Federal, State, and private organizations.

APR. 1, 1963

#### UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

#### PUBLISHED BY SOIL CONSERVATION SERVICE

		20 0. 00.12	000200202	
REPORTS	1.5	SUED	LOCATION	COOPERATING WITH
RIVER BASINS				
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STATES				
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SACRAMENTO, CALIF.

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UTAH

APRIL 1, 1963

Report prepared by

GREGORY L. PEARSON, Snow Survey Supervisor and

GARRY DINSDALE, Asst. Snow Survey Supervisor

SOIL CONSERVATION SERVICE SNOW SURVEY SECTION 222 SOUTH WEST TEMPLE SALT LAKE CITY 1, UTAH

Issued by

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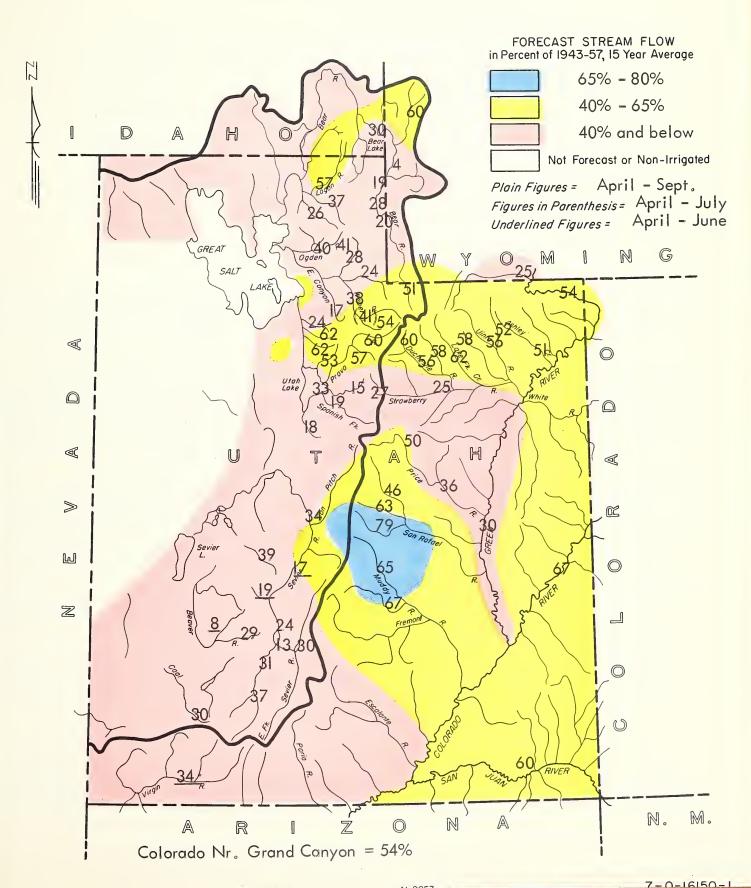
LOGAN, UTAH



### PROSPECTIVE WATER SUPPLIES

Based on Snow Surveys Made on UTAH and BEAR RIVER WATERSHEDS







#### WATER SUPPLY OUTLOOK

as of

APRIL 1, 1963

March storms failed to bring any major improvement in the water outlook for most of the state. Instead, forecasts for the majority of streams have dropped 3% to 15% below what was expected the first of March. Now, most stream forecasts range between about 15% and 55% of average.

Although increases in snowpack water during March varied from about average to one half the average amount, an outstanding exception occurred in central Utah on the headwaters of Ferron Creek, Muddy River, Cottonwood Creek above Castledale, Twelve Mile Creek above Mayfield and on Manti Creek. Here, snow water increases during the month varied between 120% and 180% of average.

As a result, Ferron Creek now has the highest forecast in the state, with 79% of average streamflow expected this summer. Although the snowpack at the Buck Flat snow course near Ferron reservoir is 97% of average, the soils are dry and the low snow cover is not as good as it is at the higher elevations. This results in the lower percentage for expected streamflow.

Forecasts for the above named streams adjacent to Ferron Creek range from about 65% to 75% of average.

Next high - with forecasts ranging from 55% to 65% - are streams from Ephraim to Mt. Pleasant, streams near Moab, the Cottonwood Creeks near Salt Lake, Farmington Creek, the upper Provo, Weber and Logan rivers, and streams from the Duchesne to Uinta rivers.

Everything else in the state is forecast at less than 55% of average.

Assuming that average weather conditions will prevail for the balance of the spring and summer, some of the southwestern streams of the state will establish new record low streamflow measurements this summer. Included among these are



the Beaver river near Beaver, the Virgin river, Coal Creek at Cedar City and the Sevier River at Hatch.

Of 20 snow courses in this area, 11 have set new record low readings, 7 have equaled previous lows, while only 2 have slightly higher readings than previously recorded lows.

Forecasts for these southwestern streams range from a low of 8% for inflow to Rocky Ford reservoir on the Beaver river to a high of 37% for the Sevier at Hatch.

Outlook for the rest of the Sevier river system - although not record low - is extremely poor. Forecast inflow to the river between Kingston and Vermillion Dam is expected to be 17%, while between Vermillion Dam and Gunnison the forecast is 48%. For the Sevier river at Gunnison 34% is expected, while the streams near Fillmore should yield from 30% to 40%.

The outlook is very poor for water users served by Utah Lake, and for those served by the southern tributaries to the Lake. Utah Lake will supply essentially the same amount of water it did in 1961, while the Spanish Fork river, Hobble Creek near Springville and Payson Creek are expected to yield at or below the 1961 amounts. Specifically, Hobble Creek is forecast at 15%, Payson Creek 18%, Spanish Fork river 19% and Utah Lake 33%.

Elsewhere in the state the outlook is particularly poor for the lower elevation watersheds. Among these, where forecasts range from 15% to 30%, are Parley's Creek near Salt Lake, East Canyon Creek near Morgan, Chalk Creek near Coalville, Lost Creek near Croydon, Little Bear river in Cache Valley, the main Bear river and smaller streams near Woodruff and Randolph, Strawberry river at Duchesne and inflow to Strawberry reservoir.

Streams where prospects vary between about 35% and 50% include the following - Blacksmith Fork and Ogden rivers, Weber river near Coalville, American Fork river, streams near Tooele, Vernal, Monticello and Blanding, the Fremont and Price rivers.

While reservoir storage is good for part of the state, it should be remembered that there are water users in these areas who have natural flow rights only and cannot benefit from the storage. These people will feel the lack of water and will need to adjust their cropping patterns and other needs to the supply available.



### TIPS to CONSERVE WATER

# and MAINTAIN PRODUCTION

#### MAKING THE MOST OF YOUR IRRIGATION WATER

In order to make the most efficient and effective use of the available irrigation water, the following guides will help:

- 1. Know at the beginning of the irrigation season, just what the water-supply prospects are and plan accordingly by cutting lengths of run, or by applying water to narrower strips, or by making crop adjustments.
- 2. Prevent loss in the use of irrigation water:
  - a. Keep ditches clean and weed-free.
  - b. Install good control structures in canals and field ditches to save water and time.
  - c. Combine irrigation streams with your neighbor to prevent loss in ditch wetting .
  - d. Combine streams on the farm and irrigate with larger streams of water for a shorter time.
  - e. Fix leaky structures.
  - f. Divert waste water into lower ditches for reuse, or into a sump. Pump from the sump for reuse.
- 3. Know the water requirements of the crops to be grown and the type of soil being irrigated:
  - a. Where water is available for use, fill the root zone as early in the spring as it is practical to irrigate. Use only enough water to replace the moisture defiency in the root zone of the crop being replaced.
  - b. Apply water only when needed.
  - c. Use shovel or soil auger to find out when to irrigate and how much to irrigate.
  - d. Check depth of water penetration during and after each irrigation with an auger or shovel.
  - e. Call your local Soil Conservation Service technician, or your County Agent, for help in determining water-holding capacity of soils and water requirements of your crops.

### CROP PRIORITY FOR USE OF IRRIGATION WATER

Use water on crops in the following priority:

1. Established stands of hay and pasture to meet essential feed requirements for livestock enterprises.



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### CROP PRIORITY FOR USE OF IRRIGATION WATER

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1. Established stands of hay and pasture to meet essential feed requirements for livestock enterprises.

- 2. On farms where high value cash crops are grown, limit acreage to that for which adequate water is available.
- 3. Small grain seeded to meet the normal feed requirements.
- 4. Additional acreage of small grains (primarily barley or oats) to be used as temporary substitute for hay or pasture in the feed rations for livestock. These crops use less water than hay or pasture.
- 5. Small grain and vetch for hay, or other short season forage adaptable on land which may be withheld from production of row crops because of short water supply.
- 6. Corn silage or grain corn.
- 7. Other crops which are grown for purposes of supplemental feed over and above the minimum requirements.
- 8. Establish new stands of permanent hay or pasture for future needs or contemplated expansion, only if later water will be available.

### CROPPING AND MANAGEMENT ADJUSTMENTS

To make the most effective use of a limited water supply:

- 1. Plant early-maturing, low water demand crops such as small grains for hay or silage.
- 2. Time all operations of seeding, irrigation, and harvesting to take full advantage of available moisture. Early planting of small grains is especially desirable.
- 3. Till the soil a minimum number of times to prepare an adequate seedbed. Cultivate only as often as necessary to control weeds. Use sprays instead of tillage where possible.
- 4. Control weeds on ditch banks and in the field to conserve water.
- 5. Maintain a high fertility level on those crops for which irrigation water is available, but be careful in applying fertilizer on fields where the water supply may be short.
- 6. Rough plow and leave idle the less productive land if irrigation water is not available for the entire farm.

# UTAH STREAMFLOW FORECASTS a ( 1,000 Ac. Ft. )

FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	LAST YEAR	AVERAGE b	THIS YEAR AS PERCENT OF AVERAGE
					OF AVERAGE
G	REAT BASIN	J			
BEAR RIVER SYSTEM					
Bear nr Ut-Wyo. State Line Bear nr Woodruff Woodruff Crk nr Woodruff, Ut. Big Crk nr Randolph, Ut. Bear nr Randolph Smith's Fork nr Border, Wyo. Bear at Harer, Idaho Little Bear nr Paradise Logan nr Logan (1) Blacksmith Fork nr Hyrum (2)	63 27 5.5 1.8 5 71 90 12 82 25	Apr-Sept	142 134 18.7 6.5 104 142 358 55 140 64	123 133 19.4 9.7 115 119 299 46 143 67	
WEBER-OGDEN RIVERS					
Weber nr Oakley  Wanship Reservoir Inflow (3)  Weber nr Coalville (4)  Chalk Crk at Coalville  Lost Crk nr Croydon, Ut.  East Canyon Crk nr Morgan (5)  So. Fork Ogden nr Huntsville  Pineview Reservoir Inflow (6)	56 72 53 55 10 5.5 5 29	Apr-June Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-July		107 134 130* 143 42 19.9 28.7 70	
Strawberry Reservoir Inflow (7) Spanish Fork at Thistle Payson Creek nr Payson Hobble Crk nr Springville Provo nr Hailstone (8) Provo at Vivian Park (9) American Fork nr American Fork Utah Lake Inflow  JORDAN RIVER & SALT LAKE	15 8 1.4 3.5 70 90 19	Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-Sept	68 47 8.6 26.8 146 218 38 299		
Little Cottonwood Crk nr SLC Big Cottonwood nr SLC Parley's Crk nr SLC	24 25 3.5	Apr-Sept Apr-Sept Apr-Sept	44 44 11.9	39 40 14.7	62 62 24

<sup>(1)</sup> Includes U.P.& L. Co. tailrace and Logan, Hyde Park & Smithfield Canal. (2) Above Utah Power & Light Company's dam. (3) Observed flow Weber River near Wanship, Utah, plus change in storage in Wanship Reservoir, plus diversion by Weber-Provo Canal. (4) Includes diversion by Weber-Provo Canal and change in storage in Wanship Reservoir. (5) Observed flow plus change in storage in East Canyon Reservoir. (6) Inflow record as computed by U.S. Bureau of Reclamation. (7) Change in storage plus diversion thru Strawberry tunnel. (8) Observed flow minus diversions thru Duchesne tunnel and Weber-Provo Canal. (9) Observed flow plus change in Storage in Deer Creek reservoir, minus diversions thru Duchesne tunnel & Weber-Provo Canal, plus diversion thru Salt Lake Aqueduct.



UTAH STREAMFLOW FORECASTS a ( 1,000 Ac. Ft. )

FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	LAST YEAR	AVERAGE b	THIS YEAR AS PERCENT OF AVERAGE
			-		
SEVIER RIVER					
Standings that things are also the standard of	1.0				00
Sevier at Hatch	10 18	Apr-June Apr-Sept	48 <b>6</b> 2	35 49	29 37
Sevier nr Circleville	13.5	Apr-Sept	54	43*	31
Sevier nr Kingston	2.3 4	Apr-June	28.9		
East Fork Sevier nr Kingston(10)	3 6.5	Apr-Sept Apr-June Apr-Sept	30.9 19.8 22.4	17.2	2. 17
Sevier below Piute Dam (11)	12	Apr-Sept	49	51	24
Clear Crk nr Sevier(abv.Div.) Inflow	3	Apr-June	14.5	15.9	)*    19
Kingston to Vermillion Dam	8	Apr-June		47	17
Vermillion Dam to Gunnison	30	Mar-June	an. w	63	48
Salina Crk at Salina(12)	0.1	Apr-June	11.5	-	4* 1 34
Sevier nr Gunnison a Chalk Creek nr Fillmore	22 8	Apr-Sept Apr-Sept	54 22.0	64 0 20.j	
					,
BEAVER RIVER					
Beaver nr Beaver	6	Apr-June	19.9	22.3	3 27
	8.5	Apr-Sept	27.5	_	^
Rockyford Reservoir Inflow(13)	0.7	Apr-June	3.	5 9.2	2 0
COAL CREEK					
Coal Crk nr Cedar City	5.0	Apr-Sept	21.0	16.6	30
COLORAD	O RIVER B	ASIN			
GREEN RIVER TRIBUTARIES IN UTAH					
FLAMING GORGE TO DUCHESNE RIVER					
					0.5
Henry's Fork at Linwood Ashley Creek nr Vernal	10 30	Apr-Sept Apr-Sept	82	40 59	25 51
Astrey of eer in Vertial	00	Mpr - oep c	02		<i>)</i> .
DUCHESNE RIVER					
Duchesne at Provo River					
(Trail nr Hanna)	25	Apr-Sept		42*	60
Duchesne nr Tabiona(14)	70	Apr-Sept	158	124	56
Rock Crk nr Mtn. Home	63	Apr-Sept	131	109	58
Strawberry at Duchesne	20	Apr-Sept	94	79 70	25 63
Lakefork below Moon Lake(15)	47 <b>5</b> 7	Apr-Sept	100	78 101	62 56
Uinta nr Neola	57 25	Apr-Sept	135	101	56 <b>5</b> 2
Whiterocks nr Whiterocks	35 46	Apr-Sept	91 100	67 79*	52 58
Yellowstone nr Altonah  (10) Observed flow plus change in storage in					

(10) Observed flow plus change in storage in Otter Creek Reservoir. (11) Observed flow plus change in storage in Otter Crk & Piute Reservoirs. (12) Gage is below diversions near Salina. (13) Observed flow at Rockyford Dam, corrected for change in storage in Rockyford Reservoir. (14) Observed flow plus diversion through Duchesne Tunnel. (15) Observed flow plus change in storage in Moon Lake Reservoir.



### UTAH STREAMFLOW FORECASTS a (1,000 Ac. Ft.)

FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	LAST YEAR	AVERAGE AS	HIS YEAR PERCENT AVERAGE
PRICE RIVER					
Gooseberry Crk nr Scofield Scofield Reservoir Inflow(16) Price nr Heiner(16)	7 20 25	Apr-Sept Apr-Sept Apr-Sept	51	12.6 40 70	56 50 36
SAN RAFAEL RIVER					
Huntington Crk nr Huntington Cottonwood Crk nr Orangeville Ferron Crk nr Ferron	27 37 34	Apr-Sept Apr-Sept Apr-Sept	56	59 59 43*	46 63 79
MUDDY RIVER					
Muddy Creek nr Emery Ivie Creek abv. Div. nr Emery	15 1.2	Apr-Sept Apr-Sept		23.1* 1.8*	65 67
VIRGIN RIVER					
Virgin at Virgin	15	Apr-June	57	44	34
UPPER COLORADO BASIN					
Colorado nr Cisco, Utah Flaming Gorge Inflow(17)d Green at Green River, Utah(17) San Juan nr Bluff, Utah (18) Colorado nr Grand Canyon (17-18)	2700 800 1680 735 4000 4900	Apr-Sept Apr-Sept Apr-Sept Apr-Sept Apr-July Apr-Sept	1677 4392 1126 10888	4059 1471 3540 1226 8056 9155	67 54 30 60 50 54

#### GENERAL FOOTNOTES

<sup>(16)</sup> Observed flow plus change in storage in Scofield Reservoir. (17) Observed flow plus change in storage in Flaming Gorge and Big Sandy Reservoirs. (18) Observed flow plus change in storage in Navajo Reservoir.

<sup>(</sup>a) Runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. The discharge data is taken from preliminary records of the U.S. Geological Survey. (b) 1943-57, 15 year period. \*Partly estimated.



BASIN or STREAM	RESERVOIR	USABLE CAPACITY	MEASURED (FIRST OF MONTH)		
			THIS YEAR	LAST YEAR	AVERAGE

GRI	EAT	BAS	IN

	GREAT	DASIN			
Bear River	Bear Lake Woodruff Narrows	1421.0 26.5	777.4 18.5	547.6 20.0	848.8
Little Bear	Hyrum Porcupine	15.3 11.3	15.3 3.0	13.0	11.8
<u>Ogden</u>	Pineview	110.0	69.8	40.0	9.7
<u>Weber</u>	Rockport Echo East Canyon	60.9 73.9 28.7	31.9 45.6 20.5	21.9 30.4 8.6	35.7 17.6
Provo	Deer Creek	149.7	113.4	51.9	84.2
Spanish Fork	Strawberry	270.0	55.5	21.9	137.6
Utah Lake	Utah Lake (b)	1149.0	317.2	314.2	658.0
Sevier River	Otter Creek Piute Sevier Bridge	52.5 74.0 236.1	25.5 23.9 70.0	28.2 41.9 71.7	36.7 54.2 166.0
Beaver River	Rocky Ford	23.3	9.9	10.1	17.0
	COLORADO R	IVER DRAINAGE			
Ashley Creek	Steinaker	33.3	16.1	<b>100</b> 000.	<b>.</b>
Lake Fork	Moon Lake	35.8	16.3	26.2	15.5
Price River	Scofield	65.8	19.9	3.4	17.9
Green	Flaming Gorge	3789.0*	108.7		
San Juan	Navajo	1709.0*	149.7		
Colorado	Lake Powell	28040.0*	312.0		ma uso

All data contained in this table supplied by the U.S. Geological Survey \* - Total capacity reported



LaSal Mtns. near Moab

Blue Mtns. nr Monticello

COMPARISON of SNOW COVER THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF NO. of COURSES RIVER BASIN or TRIBUTARY WATERSHED **AVERAGE** LAST YEAR GREAT BASIN Bear River South of Evanston, Wyo. 74 8 Smith's Fork - Bear River (Wyo) Emigration Creek (Idaho) Strawberry-Mink Creeks (Ida) Cub River (Ida) Logan River Blacksmith Fork-Little Bear Malad River (Idaho) Ogden River Weber River above Echo Dam Chalk Creek - Coalville East Canyon Creek Farmington Creek Salt Lake Area Tooele Area American Fork River Provo River above Vivian Park Strawberry Reservoir Valley Hobble Creek Mt. Nebo Area Sevier River above Panguitch East Fork Sevier River Clear Creek above Sevier Salina Creek Mt. Pleasant Area Ephraim Area Manti Area Mayfield Area Chicken Creek-Levan Chalk Creek - Fillmore Beaver River Parowan Creek Coal Creek - Cedar City Enterprise - New Harmony COLORADO RIVER BASIN IN UTAH Duchesne River above Tabiona Strawberry River Lakefork River Whiterocks-Uintah Rivers Ashley - Brush Creeks Price River San Rafael Tributaries Muddy River Fremont River Escalante River Virgin River 

<sup>\*</sup> Actual or Estimated 1943-57, 15 year Average.



	GRE	AT BASI	N DRAINA	GE			
UPPER BEAR RIVER (Above Harer, Idaho)							
Big Park Burts-Miller Ranch CCC Camp x Hayden Fork Kelly Ranger Station Monte Cristo R.S. Piney LaBarge x Poison Meadows x Salt River Summit x Stillwater Camp Trial Lake x	10G11 10J6 10G7 10J7 10G12 11H12 10G10 10G6 10G8 10J17 10J8	8700 7900 7500 9300 8200 8960 8820 8500 7900 8550 9800	3/28 3/21 3/29 3/21 3/28 3/29 3/29 3/29 3/29 3/21 3/28	44 8 27 37 33 55 46 73 38 27 58	15.4 3.6 8.5 11.4 12.7 19.7 16.1 25.7 11.8 7.8 18.8	26.7 6.9 11.5 21.3 24.7 33.0 26.3 39.6 19.4 12.3 31.2	20.6* 6.1 12.3 18.3* 18.1* 27.9 20.5 29.8* 16.1* 13.5* 29.1
LOWER BEAR RIVER (Below Harer, Idaho)							
Beaver Crk-Skunk Crk. Christensen Ranch Cub River R.S. Dry Bread Pond x Dry Creek Flat Emigration Canyon Emigrant Summit Franklin Basin Garden City Summit Klondike Narrows Little Bear(lower) Little Bear(upper) Monte Cristo R.S. Oxford Mountain Slug Creek Divide Steep Hollow #1 Steep Hollow #2 Strawberry Creek Strawberry Mink Divide Tony Grove R.S. Willow Flat	11H14 11G11 11G12 11H13 12G4 11G7 11G6 11G8 11H7 11H1 11H26 11H25 11H12 12G3 11G5 11H27 11H28 11G9 11G10 11H3 11G4	7150 5600 5400 8230 6350 6500 7700 8200 7600 7400 6100 6850 8960 6800 7225 8500 7700 5800 6250 6100	3/28 3/27 3/28 3/27 3/26 3/26 3/29 3/29 3/26 3/28 3/27 3/28 3/29 3/29 3/29 3/29 3/29 3/29	14 0 0 38 0 18 49 61 37 39 2 11 55 13 37 54 0 26 10 6	6.5 0.0 0.0 13.4 0.0 7.2 16.8 21.1 13.1 13.9 1.1 4.3 19.7 4.8 13.2 28.2 19.2 0.0 11.5 4.1 3.3	14.2 9.9 10.0 23.3 7.6 12.2 27.2 32.0 23.4 22.8 13.2 16.7 33.0 9.0 19.2 42.0 30.8 13.4 24.6 12.8	13.7* 8.7* 7.4* 20.0 3.7* 10.7* 25.7 29.2 20.3 20.0* 9.0* 12.0* 27.9 8.2* 16.8 12.4* 23.3* 10.5* 15.1*
OGDEN RIVER			4.0				
Beaver Crk-Skunk Crk. Ben Lomond Peak Ben Lomond(lower) Ben Lomond Trail Cutler Creek	11H14 11H8 11H9 11H30 11H29	7150 8000 5850 6000 6780	3/28 3/26 3/26 3/26 3/26	14 66 12 14 49	6.5 23.5 4.0 5.0 17.2	14.2 49.6 18.8	13.7* 36.0* 15.0*



COURSE

DRAINAGE BASIN and SNOW

CURRENT INFORMATION

SNOW DEPTH

DATE OF

WATER

PAST RECORD

WATER CONTENT (Inches)

SNOW



DRAINAGE BASIN and SNOW	COURSE		DATE OF	SNOW DEPTH	WATER		ENT (Inches)
NAME	NO.	ELEVATION	SURVEY	(inches)	CONTENT (Inches)	WATER CONTE	1000000000000000000000000000000000000
JORDAN RIVER & TOOELE VAL	LEY			· · · · · · · · · · · · · · · · · · ·			
Bevan's Cabin Lamb's Canyon Middle Canyon - Tooele Mill D South Fork Parley's Canyon Smt. x Rocky Basin-Settlmt. Cyn. Silver Lake	12J2 11J14 12J3 11J10 11J15 12J1 11J16	6450 6600 7000 7400 7500 8900 8725	4/2 3/29 3/27 3/28 3/30 4/2 3/28	7 27 14 37 34 55	1.4 6.8 5.2 12.8 11.2 15.4 16.8	12.7 16.1 15.3 21.5 20.1 31.8 31.0	12.4% 15.6 13.5% 20.8 19.0 24.4% 28.7
UPPER SEVIER RIVER (South of Richfield, Utah	<u>)</u>						
Big Flat x Box Creek Bryce Canyon Castle Valley Cedar Breaks Duck Creek R.S. Fish Lake Harris Flat R.S. Kimberly Mine Long Valley Jct. x Midway Valley Panguitch Lake Squaw Springs Widtsoe-Escalante Smt. Widtsoe-Escalante #2 Widtsoe-Escalante #3	12L7 12L4 12M8 12M13 12M1 12M4 11L3 12M5 12L6 12M6 12M2 12M7 12L5 11M1 11M2 11M3	10290 9800 8000 9700 10390 8560 8700 7700 8900 7500 9800 9300 9500 9500	3/26 3/26 3/29 3/29 3/27 3/25 3/27 3/27 3/27 3/28 3/28 3/28 3/28 3/28		11.2 6.9 0.0 7.0 9.6 1.6 ace 8.0 0.0 8.8 ee 3.3 3.8 4.9 7.6	22.3 15.8 6.3 20.0 33.4 24.8 9.5 14.4 18.2 7.1 33.0 4.6 9.2 10.8 12.1 14.2	20.0 15.0* 4.0 14.0* 24.0 15.9 8.3 8.5 17.4 4.2 25.2* 5.1 9.2* 7.5 10.4*
LOWER SEVIER RIVER (Including San Pitch River	<u>r)</u>						
Bear Canyon Beaver Dams Farnsworth Lake G.B.R.C. Headquarters G.B.R.C. Meadows Gooseberry R.S. Gooseberry Reservoir x Huntington-Horseshoe Mammoth R.SCtnwood Crk, Middle Fork Mt. Baldy R.S. Pine Creek Rees' Flat Shingle Mill Thistle Flat	12L3 11K13 11L1 11K11 11K10 11L2 11K4 11K5 11K3 11K34 11K12 12L1 11K36 12L11 11K35	7200 8000 9900 8700 10000 8400 8700 9800 9600 9500 8700 7300 6200 8500	3/27 3/26 3/29 3/29 3/29 3/27 3/27 3/27 3/25 3/26 3/22 3/27 3/25	12 33 41 35 42 38 40 59 61 28 43 43	3.9 11.8 13.2 12.0 21.7 7.1 14.4 19.8 15.2 18.0 19.7 7.4 1.8 14.6	13.4 18.0 20.8 24.9 31.3 13.6 26.7 33.6 29.2 32.7 31.3 18.8 19.5 13.5 22.4	11.3* 12.8* 18.7* 17.2 26.0 11.5 20.2 24.5 21.3 24.0* 24.2* 16.5* 12.7* 16.5*

CURRENT INFORMATION

PAST RECORD

SNOW



SNOW			2111	DDENT INFO	MATION		
	COURSE		DATE OF	RRENT INFOR	WATER		RECORD
NAME	NO.	ELEVATION	SURVEY	SNOW DEPTH (Inches)	CONTENT (Inches)	LAST YEAR	TENT (Inches)
					-		
BEAVER RIVER							
Big Flat Merchant's Valley Otter Lake	12L7 12L9 12L8	10000 8200 9300	3/26 3/26 3/26	38 5 29	11.2 1.5 8.2	22.3 15.3 20.2	20.0 11.1 17.3
PAROWAN CREEK							
Ed Ward Flat Yankee Reservoir	12M12 12M11	8300 87 <b>0</b> 0	3/27 3/27	8 22	2.4 5.6	11.8 13.9	7.9* 11.0*
COAL CREEK							
Cedar Breaks Midway Valley x Urie Flat Webster Flat	12M1 12M2 12M10 12M3	10390 9800 8450 9200	3/28 3/28 3/28 3/28	38 36 1 20	9.6 8.8 0.4 5.5	33.4 33.0 11.8 26.8	24.0 25.2* .7.3* 18.1
ENTERPRISE TO NEW HARMONY	DRAINA	GES					
Little Grassy Creek Long Flat	1 3M4 1 3M2	6100 8000	3/29 3/29	0 1	0.0	3.1 9.8	6.4*
	COL	.ORADO F	RIVER DR	AINAGE			
UPPER GREEN RIVER IN UTAH							
(Tributaries above Flamin	g Gorge	<u>)</u>					
Black's Fork Jct. Buck Pasture A East Fk.Black's Fk. G.S. Henry's Fork A Hewinta Guard Station Hickerson Park Hole-in-the-Rock Hole-in-the-Rock G.S. Middle Beaver Creek Spirit Lake Steel Creek Park  BRUSH CREEK	10J22 10J23 10J21 10J24 10J4 9J8 10J1 10J3 10J2 9J7 10J20	8925 9700 9300 10200 9500 9100 9150 8300 8550 10300 9900	3/20 3/25 3/20 3/25 3/21 3/27 3/26 3/25 3/26 3/27 3/20	28 39 29 36 32 13 18 6 12 23 36	7.2 10.5A 7.6 9.7 8.9 3.8 4.1 1.2 3.0 5.6 9.3	11.1 12.1 10.8 10.6 8.1 4.2 7.3 19.0 14.4	10.5 6.5 1.8* 5.7*
Kings Cabin(lower) Kings Cabin(upper)	9J2 9J1	8600 8730	3/26 3/26	14 23	4.2 5.8	14.4 17.3	10.5 12.0



(a) 1943-57, 15 year period.	(b) Average of all past record.	(x) Adjacent drainage.	(A) Aerial observa-
tion: Water content estimated	. * Estimated 1943-57, 15 year o	iverage.	

3/27

3/27

3/27

3/26

3/26

3/30

3/28

3/28

3/28

11K5

10K1

11K3

11K33

11K7

10K6

10K2

11K24

11K25

9800

9100

8800

8300

7600

9100

8600

7600

7400

54

26

40

27

23

22

3

0

2

19.8

7.6

15.2

8.1

0.5

6.0

6.8

1.4

0.0

Huntington-Horseshoe

Mammoth R.S.-Ctnwd. Crk.x

Indian Canyon x

Mud Creek #2

Jones Ranch

White River #1

White River #2

White River #3

Timberline

33.6

20.1

29.2

17.7

11.4

24.8

18.4

13.0

10.8

24.5

13.1

21.3 14.2\*

6.2

gas, ma

14.9%

9.0%

9.1%



SAN RAFAEL RIVER							
Buck Flat Gooseberry Reservoir Huntington-Horseshoe Mammoth R.SCtnwd Crk.x Red Pine Ridge Rush Pond Seely Creek R.S. Stuart R.S. Switchback Upper Joe's Valley Wrigley Creek	11K31 11K4 11K5 11K3 11K28 11K38 11K9 11K27 11K26 11K29 11K32	9400 8700 9800 8800 9400 9800 10000 7950 8600 8800 9000	3/25 3/27 3/27 3/27 3/26 3/25 3/29 3/21 3/27 3/26 3/25	46 38 54 40 41 38 41 14 32 23 27	15.9 14.4 19.8 15.2 13.3 12.9 14.8 5.0 10.9 7.7 8.2	22.2 26.7 33.6 29.2 22.7 20.8 23.2 13.1 22.4 14.6 16.0	16.4* 20.2 24.5 21.3 19.1* 15.1* 15.8 8.2* 18.3* 10.5* 11.0*
MUDDY RIVER							
Black's Fork Dill's Camp Mt. Baldy R.S. x FREMONT RIVER	11K14 11K15 11K12	9200 9200 9500	3/19 3/19 3/26	38 38 61	10.1 10.3 19.7	18.1 16.4 31.3	16.5* 14.0* 24.2*
Black's Flat-UM Creek Donkey Reservoir Farnsworth Lake x Fish Lake Johnson Valley ESCALANTE RIVER	11L4 11L5 11L1 11L3 11L6	9250 9800 9900 8700 8850	3/25 3/22 3/28 3/25 3/25	26 25 41 Trac 14	6.8 5.4 13.2 e	12.6 9.3 20.8 9.5 8.8	10.3* 9.0* 18.7* 8.3 8.0*
Widtsoe-Escalante Smt. Widtsoe-Escalante #2 Widtsoe-Escalante #3 VIRGIN RIVER	11M1 11M2 11M3	9500 9500 9500	3/28 3/28 3/28	11 21 30	3.8 4.9 7.6	10.8 12.1 14.2	7.5 10.4*
Cedar Breaks x Duck Creek R.S. Harris Flat R.S. Long Valley Jct. Midway Valley x Webster Flat	1 2M1 1 2M4 1 2M5 1 2M6 1 2M2 1 2M3	10390 8560 7700 7500 9800 9200	3/28 3/27 3/27 3/27 3/28 3/28	38 4 Tr 0 36 20	9.6 1.6 ace 0.0 8.8 5.5	33.4 24.8 14.4 7.1 33.0 26.8	24.0 15.9 8.5 4.2 25.2* 18.1
SOUTHEASTERN UTAH DRAINAG	ES						
Buckboard Flat Camp Jackson LaSal Mountain LaSal Mountain(upper)	9M1 9M2 9L1 9L2	9000 8600 8800 9600	3/21 3/21 3/22 3/22	33 31 30 44	8.6 7.8 8.4 12.7	15.9 13.7 11.9 17.8	14.9 13.9* 11.0 19.0*



DRAINAGE BASIN		CURRE	NT INFORMATI		FROM APP	DATE	
DRAINAGE BASIN AND RAIN GAGE LOCATION	ELEVATION	DATE OF READING	MONTH'S PRECIPITATION	1943 57 AVERAGE	THIS YEAR	1943 — 57 AVERAGE	PERCENT OF AVERAGE
	GREAT	BASIN	DRAINAGE	a		a	
UPPER BEAR RIVER (Above Harer, Idaho)							
Chalk Creek #2 * Chalk Creek #3 * Monte Cristo #2 Salt River Summit Stillwater Camp Trial Lake *	8000 7 <b>50</b> 0 8960 7900 8 <b>5</b> 50 9800	3/25 3/25 3/28 3/29 3/21 3/28	2.62 1.74 4.45 2.80  3.15	3.88  3.28  4.72	10.62 8.51 18.40 14.65 8.18 19.17	17.45  18.87 15.00 24.56	61  78 55 78
LOWER BEAR RIVER (Below Harer, Idaho)							
Dry Bread Pond Garden City Summit Klondike Narrows Little Bear(upper) Monte Cristo #2 Tony Grove R.S.(SCS) Willow Flat	8230 7600 7400 6850 8960 6250 6100	3/28 3/29 3/29 3/26 3/28 3/29 3/27	3.06 2.95 4.13 3.20 4.45 2.75 2.50	4.74 3.77 4.13 2.22  3.44	16.71 17.65 23.18 15.57 18.40 18.33 17.70	23.30 20.00 23.76	72  78  74
OGDEN RIVER							
Ben Lomond(lower) Ben Lomond Trail Causey Dam Dry Bread Pond Horse Ridge Monte Cristo #2 * Sagebrush Flat	5850 6000 5500 8230 8260 8960 6300	3/26 3/28 3/28 3/28 3/25 3/28 3/28	3.92 3.86  3.06 3.91 4.45 3.36	4.62  4.74  3.47	20.58 20.86 9.92 16.71 18.16 18.40 12.97	26.64 	77  72  83
WEBER RIVER							
Chalk Creek #2 Chalk Creek #3 Farmington Guard Sta.(1) Farmington Rice (1) Horse Ridge Lost Creek Reservoir Mt. Dell Dam(2) * Parley's Canyon Smt. Silver Lake(Brighton)*(2) Smith & Morehouse Trial Lake *	8000 7500 7500 7000 8260 6125 5500 7500 8725 7600 9800	3/25 3/29 3/29 3/25 3/25 3/31 3/30 3/31 3/26 3/28	2.62 1.74 6.69 6.64 3.91 1.84 3.32 4.35 6.54 2.17 3.15	3.88 	17.97 18.16 7.95 10.18 14.80	17.45 	65  76 71

<sup>(1)</sup> Data supplied by U.S. Forest Service \* Adjacent Drainage

<sup>(2)</sup> Data supplied by U.S.W.B. a All values estimated except those where symbol a occurs.



DRAINAGE BASIN AND RAIN GAGE LOCATION	ELEVATION	CURRENT INFORMATION			TION	FROM APPROX, IO/I TO DATE			
		DATE OF READING		MONTH'S PRECIPITATION	1943 — 57 AVERAGE	THIS YEAR	1943 — 57 AVERAGE	PERCENT OF AVERAGE	ı

				а		a	
PROVO RIVER & UTAH LAKE							
Clear Creek Ridge #2 Daniels-Strawberry Smt. Dutchman R.S. East Portal Ridge Hobble Creek Smt. Payson R.S. Soapstone R.S. Strawberry ResE. Portal Timpanogos Divide Trial Lake	8000 8000 7500 7800 7300 8050 7800 7606 8200 9800	3/26 3/26 3/28 3/30 3/26 3/27 3/28 3/30 3/28 3/28	2.50 2.08 2.97 2.55 2.75 3.76 1.68 1.00 2.70 3.15	4.00 4.93 5.27  3.64 3.24 2.52 1.69 5.44a 4.72	11.70 14.37 18.87 14.50 15.25 12.93 12.30 8.21 17.32 19.17	17.13 18.53 27.62 17.12 18.05 16.25 9.43 28.48a 24.56	68 78 68  89 72 76 87 61 78
JORDAN RIVER & TOOELE VALL	EY_						
Middle Canyon Mt. Dell Dam(2) Parley's Canyon Smt. Silver Lake (Brighton)(2)	7000 5500 7500 8725	3/27 3/31 3/30 3/31	3.73 3.32 4.35 6.54	3.85 2.47a 3.12 6.15a	11.14 10.18 14.80 21.14	17.28 13.44a 20.80 30.11a	64 76 71 70
SEVIER RIVER ABOVE RICHFIE	LU						
Big Flat * Box Creek Castle Valley Cedar Breaks Duck Creek R.S. Kimberly Mine Panguitch Lake Webster Flat * Widtsoe-Escalante #3 Widtsoe R.S.	10290 9800 9700 10390 8560 8900 8200 9200 9500 7600	3/26 3/29 3/28 3/27 3/27 3/29 3/28 3/28 3/28	1.90 2.85 3.92 2.15 2.48 3.15 1.55 4.55 2.95 0.54	4.52 3.07 3.07 	11.27 9.15 10.47 10.05 9.68 10.35 5.38 12.79 9.05 2.81	19.00 15.50 13.46  19.60 19.40 8.50 20.00 12.79 5.24a	59 59 78  49 53 64 71 54
SEVIER RIVER BELOW RICHFIE (Including San Pitch River							
Beaver Dams Farnsworth Lake Fish Lake G.B.R.C Headquarters(1) G.B.R.C. Meadows(1) G.B.R.C. Oaks(1) Gooseberry R.S.(1) Gooseberry Reservoir * Mammoth R.S. #2 * Mt. Baldy Pine Creek Shingle Mill	8000 9900 8700 8700 10000 7655 7800 8700 8600 9500 8700 6200	3/26 3/28 3/25 3/29 3/29 3/29 3/27 3/27 3/27 3/26 3/28 3/27	3.43 3.17 2.20 4.30 5.15 2.61 2.04 3.29 3.32 3.99 4.95 2.50	1.36 4.21a 4.50a 2.97a 2.55	14.25 6.05 14.26 19.44 9.87	14.93 19.00 6.47 18.76a 19.64a 13.10a 12.10 18.30 18.15	76 75 93 76 99 75 82 78 78  64

<sup>(1)</sup> Data supplied by U.S.Forest Service (2) Data supplied by U.S.Weather Bureau \* Adjacent Drainage a All values estimated except those where symbol a occurs.



	CURRE	NT INFORMAT	ION	FROM APPR	OX. 10/1 TO DA	TE
ELEVATION	DATE OF READING	MONTH'S PRECIPITATION	1943 — 57 AVERAGE	THIS YEAR	1943 - 57 PERC	ENT OF
			а		a	
			-		-	4 <sub>2</sub> 59
8 <b>700</b>	3/27	1.78	3.73	6.53	12.43	53
				-		 64
Y DRAINAC	GES					
6100 8000						36 63
COLORA	ADO RIV	ER DRAIN	AGE			
H ng Gorge)	<u>)</u>					
8925 9300 9500 10300	3/20	2.25		-		
8730	3/26	2.77	2.84	8.27	13.00	64
7800 * 8000 7800 9100 9800 10500 8150 10100 7900 7800 * 7606 9800 8600	3/30 3/27 3/25 3/29 4/2 3/25 3/22 3/28 3/30 3/28	2.55 1.70 1.62 2.47 1.60 1.35  1.68 1.00 3.15	2.23 2.74 1.35 2.65  2.52 1.69 4.72	14.37 14.50 9.30 9.03 9.51 6.30 8.54 7.05 12.30 8.21 19.17	18.53  15.16 14.40 9.07a 16.25 12.80 16.25 9.43 24.56	60 66 69 53 55 76 87
	7275 10290 8700 10390 9200 Y DRAINAG 6100 8000 COLORA Hang Gorge) 8925 9300 9500 10300 8730 8730 8730 8730 8730 8730 8730	7275 3/31 10290 3/26  8700 3/27  10390 3/28 9200 3/28 9200 3/28  Y DRAINAGES  6100 3/29 8000 3/29  COLORADO RIV  H ng Gorge)  8925 3/20 9300 3/29  COLORADO RIV  H ng Gorge)  8925 3/20 9300 3/21 10300 3/27  8730 3/26  ** 8000 3/26 7800 3/26 7800 3/26 7800 3/27 9800 3/27 9800 3/25 10500 3/25 10500 3/25 10500 3/25 7900 3/25 7900 3/25 7900 3/25 7900 3/25 7900 3/26 ** 7606 3/30 9800 3/28	7275 3/31 1.12 10290 3/26 1.90  8700 3/27 1.78  10390 3/28 2.15 9200 3/28 4.55  Y DRAINAGES  6100 3/29 1.95 8000 3/29 3.00  COLORADO RIVER DRAIN  Hang Gorge)  8925 3/20 2.05 9300 3/20 2.25 9500 3/21 2.55 10300 3/27 1.95  8730 3/26 2.08 7800 3/26 2.08 7800 3/26 2.08 7800 3/27 1.70 9800 3/26 2.08 7800 3/27 1.70 9800 3/27 1.70 9800 3/26 2.08 7800 3/28 3.15	Colorado River Drainage   September   Se	THIS YEAR   A	Colorado River Drainage   Colorado River D

<sup>(1)</sup> Data supplied by U.S.Forest Service (2) Data supplied by U.S.Weather Bureau \* Adjacent Drainage a All values estimated except those where symbol a occurs.



## PRECIPITATION DATA (Inches)

DRAINAGE BASIN	EL EVATION	CURR		ION	FROM AP	FROM APPROX. 10/1 TO DA		
AND RAIN GAGE LOCATION	ELEVATION	DATE OF READING	MONTH'S PRECIPITATION	1943 — 57 AVERAGE	THIS YEAR		PERCENT OF AVERAGE	
				a		a	AVERAGE	
PRICE RIVER								
Clear Creek Ridge #2 * Gooseberry Reservoir Indian Canyon Mammoth R.S. #2 Mud Creek White River #1 SAN RAFAEL RIVER	8000 8700 9100 8600 8300 8600	3/26 3/27 3/27 3/27 3/26 3/28	2.50 3.29 1.70 3.32 3.05 2.35	4.00 4.08  4.00 2.83 3.20	11.70 14.34 9.30 14.07 11.84 10.00	17.13 18.30  18.15 16.20 16.31	68 78  78 73 61	
JAN MAILL NIVER								
Buck Flat G.B.R.C. Meadows *(1) Gooseberry Reservoir * Red Pine Ridge Stuart R.S.	9400 10000 8700 9400 7950	3/25 3/29 3/27 3/26 3/21	3.90 5.15 3.29 4.35 1.72	3.00 4.50a 4.08 3.38	16.51 19.44 14.34 14.68 9.84	17.00 19.64a 18.30 20.00 14.27	97 99 78 73 69	
MUDDY RIVER								
Mt. Baldy R.S. *	9500	3/26	3.99	600 cm	15.42	605- 609	etto 1989	
FREMONT & ESCALANTE RIVER	RS_							
Black's Flat-U.M. Creek Farnsworth Lake * Fish Lake Widtsoe-Escalante #3	9250 9900 8 <b>7</b> 00 9500	3/25 3/28 3/25 3/28	2.80 3.17 2.20 2.95	3.57 3.65 1.36 2.90	8.40 14.25 6.05 9.05	11.37 19.00 6.47 12.79	74 75 93 71	
VIRGIN RIVER								
Duck Creek R.S. Webster Flat	8 <i>5</i> 60 9200	3/27 3/28	2.48 4.55	4.40 4.40	-	19.60 20.00	49 64	
SOUTHEASTERN UTAH DRAINAG	ES							
Buckboard Flat Camp Jackson LaSal Mountain(upper)	9000 8600 9600	3/21 3/21 3/22	3.75 2.45 2.80	3.25 2.09 5.34	12.75 10.00 12.28	19.00 15.01 19.00	67 67 65	

<sup>(1)</sup> Data supplied by U.S.Forest Service (2) Data supplied by U.S.Weather Bureau \* Adjacent Drainage a All values estimated except those

where symbol a occurs.



# Agencies Cooperating in Utah Snow Surveys

### U.S. GOVERNMENT AGENCIES

- U.S. Department of Agriculture Soil Conservation Service Forest Service
- U.S. Department of Commerce Weather Bureau
- U.S. Department of Interior
  Bureau of Reclamation
  Geological Survey
  National Park Service

#### STATE AGENCIES

Utah Agricultural Experiment Station
Utah Fish and Game Department
Utah State Engineer
Little Bear River Commissioner
Price River Commissioner
Provo River Commissioner
Sevier River Commissioner
Spanish Fork River Commissioner
Utah Water and Power Board

#### MUNICIPALITIES

Manti Salt Lake City

#### ORGANIZED PUBLIC AGENCIES

Beaver River Water Users Association
Board of Canal Presidents - Jordan River
Emery Canal and Reservoir Company
Moon Lake Water Users Association
Ogden River Water Users Association
Provo River Water Users Association
Strawberry Water Users Association
Sevier River Water Users Association

#### PRIVATE AGENCIES

Kaiser Steel Corporation

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